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Disrupting the regional housing market: Airbnb in New Zealand

Malcolm Campbell^a, Hamish McNair^b, Michael Mackay^c and Harvey C Perkins^d

ABSTRACT

The role of accommodation-sharing platforms, such as Airbnb, is seen as a disruption to more conventional accommodation providers and rental markets in many cities and regions worldwide. This Regional Graphic focuses on New Zealand, showing a snapshot in time of the spatial distribution of the accommodation provided by Airbnb. What the map shows are patterns of statistically significant mildly positive clustering (Moran's $I = 0.33$, $p \leq 0.05$) of the Airbnb locations. The 'traditional' tourism hotspots, mainly in the South Island of New Zealand, for example, Wanaka or Queenstown (Queenstown Hill, Lake Hayes South, Sunshine Bay), and the largest city, Auckland (Central West, East, Highbourside and Waiheke Island), are shown. A few of the highest ranked places also feature a high intensity per usually resident person. For example, Queenstown Hill has 204 Airbnb listings per 1000 residents. The area with the highest number of Airbnbs is Wanaka, a smaller South Island tourist destination. A key issue for future research is how short-term rentals pose a challenge to local authorities who collect property taxes based on the value of the property, with some local authorities (e.g., Auckland) proposing or enacting specific by-laws in relation to Airbnb.

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regional development; regional housing market; spatial; housing affordability; local tax; tourism; regional inequality

JEL CLASSIFICATIONS

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The role of accommodation-sharing platforms, such as Airbnb, is seen as a disruption to more conventional accommodation providers and rental markets in many cities and regions worldwide (Adamiak, 2018; Crommelin, Troy, Martin, & Parkinson, 2018; Dudas, Vida, Kovalcsik, & Boros, 2017; Gurran & Phibbs, 2017; Gutierrez, Garcia-Palomares, Romanillos, & Salas-


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Olmedo, 2017). It has been argued that Airbnb has created a new category of rental housing: short-term rentals (Wachsmuth & Weisler, 2018), and it creates a disruption because the only change needed is to displace a long-term rental tenant to enable this transition. This Regional Graphic focuses on New Zealand, showing a snapshot in time of the spatial distribution of

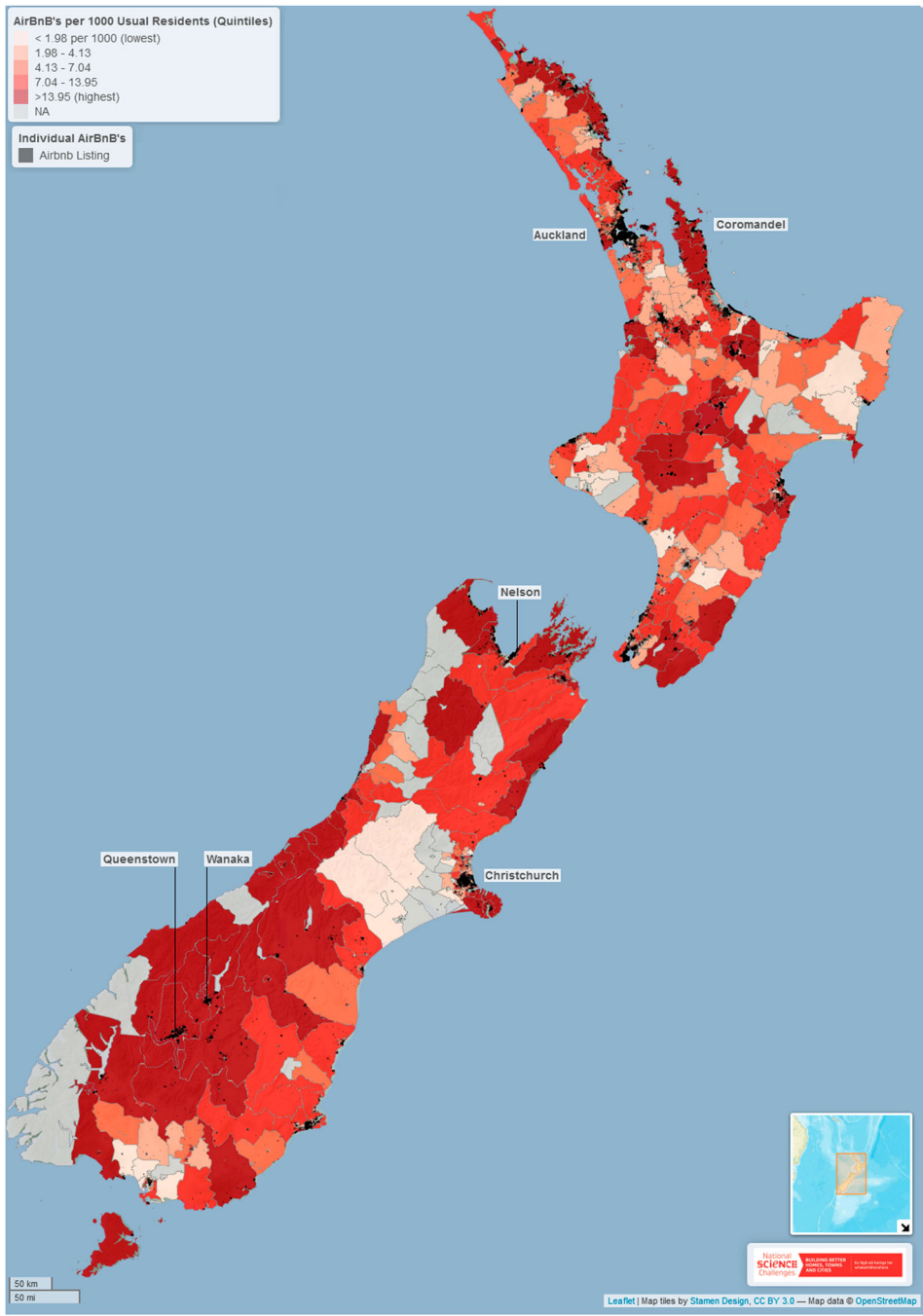


Figure 1. Airbnb listings in New Zealand, November 2018.

the accommodation provided through this platform and connecting Airbnb data to census data to provide context. In order to allow such a comparison and visualize the scale of the regional variations in accommodation provided, we have aggregated the address locations of the Airbnb data to match the geographical boundaries of the New Zealand census. This allows us to connect it to information about individuals, areas and households from the most recent census in New Zealand undertaken in 2013.

The data come from two sources. First, data for November 2018 were obtained from the Airbnb website using Python and PostgreSQL.¹ Note that these data are changing as individuals list or delist properties or rooms, and therefore may not show a complete set of Airbnbs, with a potential undercount of up to 20%. Therefore, the data set is likely to underestimate slightly the total 'stock' of Airbnbs. We then combined the Airbnb data with the most recent census data at the geographical scale of the census area unit (CAU), usually considered to be a suburb. The Airbnb listings contain a latitude and a longitude with a randomization component of up to 450 feet.² This means that the smallest geographical units were discounted (meshblocks) in favour of the CAU geographies. The mean usually resident population size of a CAU is 2,220; the mean number of Airbnbs is 20 per CAU, with a total of 33,369 listings captured within the 1,910 CAUs. The data were standardized by using the Airbnb data divided by the usually resident population in each area.

What Figure 1 shows are patterns of statistically significant mildly positive clustering (Moran's $I = 0.33$, $p \leq 0.05$) of Airbnbs. The 'traditional' tourism hotspots, mainly in the South Island (Te Waipounamu) of New Zealand, for example, Wanaka or Queenstown (Queenstown Hill, Lake Hayes South, Sunshine Bay), in the largest city, Auckland (Central West, East, Harbourside and Waiheke Island), feature in the map, the Shiny app³ and Table 1. A few of the highest ranked places also feature a high intensity per usually resident person. For example, Queenstown Hill has 204 Airbnb listings per 1000 residents. The CAU with the highest number of Airbnbs is Wanaka, a smaller South Island tourist destination. A key issue for future research is how short-term rentals pose a challenge to local authorities that collect property taxes based on the value of the property, with some local authorities (e.g., Auckland) proposing or enacting specific by-laws in relation to Airbnb. The data presented here provide initial evidence to suggest that New Zealand is different from other jurisdictions with respect to the spatial distribution of Airbnbs. We argue that New Zealand,

Table 1. Census area units with the most Airbnb listings, November 2018.

Census area unit	Airbnb count	Usually resident population, 2013	Airbnb per 1000 population	Rank for New Zealand
Wanaka	752	6471	116	1
Queenstown Hill	722	3537	204	2
Waiheke Island (Auckland Area)	574	8238	70	3
Auckland Central West	379	11,700	32	4
Auckland Central East	334	10,104	33	5
Te Rerenga (Coromandel Peninsula)	329	4107	80	6
Lake Hayes South (Queenstown)	249	1638	152	7
Sunshine Bay (Queenstown)	216	2355	92	8
Auckland Harbourside	216	4500	48	9
Whitianga (Coromandel Peninsula)	202	4368	46	10

with its strong regional representation of Airbnbs, exhibits a hybrid of both a well-recognized inner-urban phenomenon (Gurran & Phibbs, 2017; Wegmann & Jiao, 2017) and the experience of places with a high level of tourism provision, such as Barcelona in Spain (Gutierrez et al., 2017).

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NOTES

- ¹ See <https://github.com/tomslee/airbnb-data-collection/>.
- ² See <http://insideairbnb.com/about.html>.
- ³ See <https://malcolmhcampbell.shinyapps.io/AirbnbCensusNZ/>. There may be a short delay in loading the Shiny web application due to the volume of data visualized.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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